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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/380,270	08/27/1999	ANDERS THUREN	104-248P	2398

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EXAMINER
POKRZYWA, JOSEPH R

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 09/23/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/380,270	THUREN, ANDERS	
	Examiner	Art Unit	
	Joseph R. Pokrzywa	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 August 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3 and 6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Preliminary Amendment

1. Applicant's preliminary amendment was received on 8/27/99, and has been entered and made of record. Currently, **claims 1-14** are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The references listed in the Information Disclosure Statements submitted on 8/27/99 and 4/9/03 have been considered by the examiner (see attached PTO-1449's).

Drawings

4. The drawings are objected to because of the problems addressed in the attached PTO-948. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

On page 4, line 26, "tree" should read "three".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1 and 14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1 and 14 both recite the broad recitation "input

data containing the geometries to be written on the plate in an input format", and the claims also recite "e.g. a list of polygons" which is the narrower statement of the range/limitation. Also, claims 1 and 14 both recite the broad recitation "fracturing the input data into writing fields", and the claims also recite "e.g. swaths" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 1-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Teitzel *et al.* (U.S. Patent Number 5,533,170, cited in the Information Disclosure Statement dated 8/27/99).

Regarding ***claim 1***, Teitzel discloses a method for fast and accurate writing of very complex patterns on a light sensitive surface (see abstract, and column 3, line 44 through column 4, line 31) comprising the steps of providing at least two modulated focused laser beams scanning the surface in interlaced parallel scan lines (column 3, line 44 through column 4, line 31), providing for each beam a beam processor unit with data conversion logic and means for modulating the laser beam (column 7, lines 3 through 32, and column 11, lines 30 through 41), providing input data containing the geometries to be written on the plate in an input format, e.g. a list of polygons (column 7, line 36 through column 8, line 23), in a first conversion step fracturing the input data into writing fields, e.g. swaths (column 7, lines 36 through 62), in a second conversion step cutting the geometries in the fractured database into scan lines (column

8, line 54 through column 9, line 53), and generating for each scan line a scan list containing geometries to be written in the scan line, so called segments (column 9, line 19 through column 10, line 12), and performing the second conversion step in at least two parallel processors, so called segmentizers (column 9, line 19 through column 11, line 28), operating simultaneously but on different writing fields (column 11, line 30 through column 12, line 10), further distributing the scan lists to the beam processor units in accordance with the interlacing of the scan lines (column 10, line 63 through column 11, line 28), and in a third conversion step converting in the beam processor units the scan lists of segments to analog power modulation sequences for the laser beams (column 12, lines 11 through 39).

Regarding ***claim 2***, Teitzel discloses the method discussed above in claim 1, and further teaches that the segments in the scan lists are simplified geometrical representations of those parts of the input geometries that fall in the scan line (column 7, line 46 through column 8, line 37).

Regarding ***claim 3***, Teitzel discloses the method discussed above in claim 1, and further teaches that the segments in a scan lists are non-overlapping (column 8, lines 24 through 52).

Regarding ***claim 4***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the segments in a scan lists are rectangles with a length and a width (column 8, lines 1 through 37).

Regarding ***claim 5***, Teitzel discloses the method discussed above in claim 1, and further teaches that the segments in the scan lists are sorted in the order they will be written by the scanning beam (column 8, lines 1 through 52).

Regarding ***claim 6***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the conversion in the beam processor units uses a set of conversion rules that are empirically calibrated (column 1, lines 33 through 50, and column 5, line 58 through column 6, line 20).

Regarding ***claim 7***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the conversion in the beam processor units uses at least one table-lookup function (column 12, line 5 through column 13, line 25).

Regarding ***claim 8***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the scan lists are distributed to the beam processor units via a cross-switch network (see Fig. 5, 8, and 9, column 7, lines 3 through 25, column 11, lines 42 through 65, and column 14, line 15 through column 15, line 16).

Regarding ***claim 9***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the scan lists are distributed to the beam processor units via a bus-system (see Figs. 5, 6, and 9, column 13, line 27 through column 15, line 16).

Regarding ***claim 10***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the scan lists are distributed to the any one of the preceding claims beam processor units by a multiplexer (MUX 806, 808, 809, seen in Fig. 8, column 12, lines 21 through 30).

Regarding ***claim 11***, Teitzel discloses the method discussed above in claim 1, and further teaches that in the data are pipelined through the second and third conversion steps without intermediate non-volatile storage (column 11, line 54 through column 12, line 20).

Regarding ***claim 12***, Teitzel discloses the method discussed above in claim 1, and further teaches that in beam boards has an input buffer with room for the scan lists for at least two writing fields (column 11, lines 54 through 65).

Regarding ***claim 13***, Teitzel discloses the method discussed above in claim 1, and further teaches that the transfer between the segmentizers and the beam processor unit are double buffered, in one output buffer in the segmentizer and in one input buffer in the beam processor unit (column 12, lines 5 through 30).

Regarding ***claim 14***, Teitzel discloses an apparatus for fast and accurate writing of very complex patterns on a light sensitive surface comprising at least two modulated focused laser beams scanning the surface in interlaced parallel scan lines (see abstract, and column 3, line 44 through column 4, line 31), for each laser beam a beam processor unit with data conversion logic and means for modulating the laser beam (column 7, lines 3 through 32, and column 11, lines 30 through 41), means for accepting input data containing the geometries to be written on the plate in an input format, e.g. a list of polygons (column 7, line 36 through column 8, line 23), data processing means for in a first conversion step fracturing the input data into writing fields, e.g. swaths (column 7, lines 36 through 62), parallel data processing means for in a second conversion step cutting the geometries in the fractured database into scan lines (column 8, line 54 through column 9, line 53), and generating for each scan line a scan list containing geometries to be written in the scan line, so called segments (column 9, line 19 through column 10, line 12), data distribution means for distributing the scan lists to the beam processor units in accordance with the interlacing of the scan lines (column 10, line 63 through column 11, line 28), and data conversion and beam modulation means in the beam processors units for in a third conversion

step, converting the scan lists of segments to analog power modulation sequences for the laser beams (column 12, lines 11 through 39).

Citation of Pertinent Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Thuren *et al.* (U.S. Patent Number 5,635,976) discloses a system for writing geometric structures on a substrate;

Whitney (U.S. Patent Number 4,541,712) discloses a laser pattern generating system.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (703) 305-0146. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

J.R.P.

Joseph R. Pokrzywa
Examiner
Art Unit 2622

jrp

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